DOCUMENT RESUME

ED 270 827 CS 505 309

AUTHOR Cassella, Michele; Mason, Gail
TITLE Teaching Data Sampling in the Communication Theory Course.
PUB DATE Apr 86
NOTE 16p.; Paper presented at the Annual Meeting of the Central States Speech Association (Cincinnati, OH, April 17-19, 1986).
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Class Activities; *Communication (Thought Transfer); Course Descriptions; *Experiential Learning; Higher Education; Learning Strategies; Retention (Psychology); *Sampling; *Simulation; *Speech Communication; Student Reaction; Teaching Methods
IDENTIFIERS Central Michigan University; *Data Sampling

ABSTRACT

The basic communication theory course offered at Central Michigan University is designed to provide students with an understanding of fundamental concepts and terminology, and to expose them to theory and research in communication. The course gives students the opportunity to engage in simulations and other in-class activities, thus making theoretical concepts easier to grasp and helping to improve long-term concept retention. The two objectives for this simulation are to solidify students' understanding of various sampling techniques and of how these techniques can affect communication research results. The simulation follows instructional units on communication models and theory, and involves several steps. First, students respond to a few survey questions--such as their political affiliation, religious preference, music preference, and so forth--the class period before the simulation. On the day of the simulation, students work in groups and analyze one question at a time, using various data sampling techniques (random, quota, purposive, systematic, and convenience). Students have found that the simulation helps them to develop an understanding of sampling bias and to differentiate among the sampling techniques through their examination and comparison of results. (HOD)

TEACHING DATA SAMPLING IN THE COMMUNICATION THEORY COURSE

By

Michele Cassella

Gail Mason

Central Michigan University

Presented at the Central States Speech Association Convention in Cincinnati, Ohio, 1986.

TEACHING DATA SAMPLING IN THE COMMUNICATION THEORY COURSE

ABSTRACT

Teaching basic communication theory to students who are just beginning to fulfill the requirements for their speech majors or minors and who have little or no background in theory can be a challenging experience. Providing students with the opportunity to engage in simulations and other in-class activities makes theoretical concepts easier to grasp, and can help improve long-term concept retention. This paper details an activity that serves to teach students about data sampling. The benefits and limitations and limitations of the activity are also included.

The procedure involves several steps which are detailed. In general, students must respond to a few survey questions the class period before the simulation (political affiliation, religious preference, music preference, etc.). On the day of the simulation, they work in groups on one question at a time, utilizing the various data sampling techniques (random, quota, purposive, systematic, and convenience). A sample size of 10 is manageable for the class.

In general, students have found this exercise to be beneficial and interesting. On written evaluations, they mentioned that it helped them to differentiate between the sampling techniques by examining and comparing results. They also indicated that the simulation activity helped them to develop an understanding of sampling bias.

TEACHING DATA SAMPLING IN THE COMMUNICATION THEORY COURSE

Teaching basic communication theory to students who are just beginning to fulfill the requirements for their speech majors or minors and who have little or no background in theory can be a challenging experience. One needs to reduce and simplify presentations so that students entering the discipline will grasp readily the concepts necessary for establishing the basis of their field of study. It is also important to try to bring to life these core theoretical concepts. This paper will detail one activity that serves these purposes in the basic communiation theory course at Central Michigan University. Its benefits and limitations will also be presented. First, however, a description of the communication theory course will be provided.

The basic communication theory course offered in the Interpersonal and Public Communication area at Central Michigan University (IPC 251 Foundations of Communication Theory) is designed to provide students with an understanding of fundamental concepts and terminology, and to expose them to theory and research in communication. This is a vital course to our department for two reasons. First, it is the only IPC course required of all IPC majors and minors, and Broadcasting and Cinematic Arts (BCA) majors. Faculty advisors urge students to take this as their first IPC course. Second, it enrolls 100 students per section; approximately 500 students per year. A lower-level hybrid course serves as one of the campus-wide competency courses.

In the last several years, IPC 251 has undergone several transformations. Four different texts have been utilized in the last two years. At one time, it lacked most of its theoretical focus and it was taught

as a "context" course. Basic concepts related to intrapersonal, interpersonal, small group, organizational, intercultural, and mass communication were presented. After much discussion, the faculty agreed that the course needed to provide a more solid theoretical basis. This decision resulted in a one-semester attempt to provide detailed theoretical explanations that proved to be too complex for the sophomore-level course.

Currently, the course contains both a theoretical foundation and experiential approach to various contexts of communication. The course begins with a broad theoretical base discussing the components of communication, communication models, the functions of theory, and how research relates to theory. As the course develops, general broad-based theories, such as systems theory and rules theory are covered as well as specific theories such as transactional analysis, balance theory, and group think. The course is designed to show how theories can be applied in various communication contexts. Most of the material is presented via a lecture format; however, there are numerous in-class activities.

As previously mentioned, teaching such a course is a challenge. At least three obstacles emerge in the large lecture context. First, there is an inherent resistance to a theory course. Because of the interactive and experiential nature of many IPC classes, students frequently expect the basic course to be "fun." Thus, a course that is theoretical and abstract in content is looked upon with some degree of anxiety. This resistance factor also emerges because the theoretical nature of the course comes as a surprise to many students. Some think a course in communication should teach them "how to" communicate and provide recipes for communication effectiveness. For example, one student commented on a course evaluation form that, "I wanted you to teach me how to

communicate--I don't care about Joe Schmoe's theory!"

Another problem related to resistance that occurs concerns the BCA students in the class. Broadcasting majors are required to take IPC 251, and it serves as a screening tool for the BCA department to weed out students who do not meet minimum standards. These students must make a B- or better grade in the course, and tend to resent taking a class in IPC that serves such a function. Therefore, we must deal with a percentage of students who are less than enthusiastic about the subject matter. This problem is compounded when several find themselves repeating the course because of poor grades.

A second problem relates to the intellectual development of the students. IPC 251 is classified as a sophomore level course. Many of the students enrolled in the class have not yet been exposed to theoretical concepts and, to some extent, have not developed the thinking skills required for mastering abstract, theoretical ideas. Many have mastered the basic level of learning, described as "knowledge" by Bloom (1956). In general, this involves the recall of a wide range of material. Students have not received enough practice in the higher levels of learning, such as comprehension and application. This necessitates that the students learn by doing, even in a theory class. The students need to be in an active, experiential learning mode. The passive mode will not facilitate higher levels of learning. Providing students with the opportunity to engage in simulations and other in-class activities makes theoretical concepts easier to grasp, and can help improve long-term concept retention.

A third problem in teaching IPC 251 concerns the class size. With 100 or more students in a classroom, it is difficult to carry on indepth

discussion. Not all students feel comfortable participating in such a large class, and many are hesitant to ask questions if they do not understand a theory or concept. Clearly, there is a lack of personalization in a large lecture class, and it requires much effort on the part of the instructor to overcome the environmental constraints. Immediate feedback from students is limited, and thus, the instructor has difficulty in knowing if students are understanding the material completely.

In dealing with the problems of teaching communication theory in a large lecture format, we have discovered the importance of using games and simulations to facilitate learning. Games and simulations serve significant pedagogical goals in that they provide specific application as well as individual involvement. They allow students to interact with each other and the instructor in a more informal and personalized manner.

Using a simulation or game usually involves breaking the class into groups to work together. This makes the class "feel smaller" and more personal. More interaction occurs among class members and the interaction then comes to be expected, even though the class is large. As a result of the small group interaction, students become more comfortable talking and participating in the class. They begin to know some of their fellow students, and it seems less formidable to make comments or ask questions during a lecture. As alluded to earlier,a second benefit to the small group approach and using games and simulations is that the instructor has more individual contact with students. He/she can move around the room, answer groups' questions, check their progress, and, in general, establish rapport with the students. Each student also has more opportunity to participate directly in learning activities when the class is broken into smaller groups. Moreover, students are actually involved in practicing communication skills.

A second function of simulations in a communication theory course is that it provides students an opportunity to learn from each other. A student who understands a concept or theory can explain it to a group member who does not. Furthermore, a student might be more inclined to admit to another student rather than the instructor, that he/she does not understand an idea and will ask questions. This results in a shared responsibility for learning. No longer is the instructor viewed as the only person in the room with the "right" answers.

A third, perhaps most important purpose of using games and simulations, is that they provide a method of active learning. Simulations can be more interesting and fun than lecture. Attention span is increased with this type of deviation from the traditional lecture format. Also, by engaging in activity that involves application of a concept, it is more likely the subject matter will be clarified. The experience also provides a reference point for the student, and often results in the student being able to retain the information better.

An exciting aspect of the active learning mode is that it provides a method of discovery for the student. The experiential quality of simulations permits a student to encounter new ideas independently, leading to the natural feeling of delight at figuring out a complex or abstract idea on one's own. This kind of experience often brings new energy and enthusiasm to the classroom. As students piece together ideas and learn to apply concepts, questions emerge and new ideas are addressed.

Simulations and games can be used in numerous ways in the large lecture classroom. In addition to the data sampling simulation which we will discuss shortly, we have put students in the active learning mode

during a unit on communication models. Early in the course, we introduce three basic types of communication models: linear, interactional and transactional. At that time, we emphasize that there is no one "right" model, that a communication theorist's model depends on his/her perspective on communication and what he/she considers to be important about communication. We also discuss the strengths and weaknesses of models, how to evaluate models, and in which contexts particular models seem to work. Then, the class is broken into groups of five or six people, and each group is asked to develop its own model. We encourage students to first discuss what each group member thinks is important about the process of communication. Once the group has come to a concensus concerning what they believe are essential elements of communication, they create a metaphor that features those important aspects.

Although some instructors have asked groups to draw their models on paper, this exercise has evolved into having the groups perform, or embody, their model for the rest of the class. This has resulted in several innovative ideas about communication. Students are provided the opportunity to "enact" communication and display their creative energy. Most importantly, it has resulted in the students' understanding of the utility of model building and the realization that a model is a representation of someone's ideas about how communication functions and that there are many alternative ways to view the process. These kinds of abstract ideas about communication are difficult to conceive of at first, but students seem to have an increased understanding of models and communication theory after this exercise.

In addressing the primary thrust of this paper, the simulation or game, we will discuss where this activity occurs in the course, a

rationale for incorporating it into a communication theory course, the procedure for conducting the simulation, modifications of the exercise, problems incurred, and benefits obtained.

The simulation for data sampling follow instructional units on models and theory. Lectures are presented on what theory is, how it functions, how it is evaluated, and its relationship to what we know about communication. The link between theory and communication research is established. We discuss the stages of research, as Littlejohn (1983) presents them in Theories of Human Communication. The five stages discussed include: (1) choosing the problem and stating the hypothesis, (2) formulating the research design, (3) collecting the data, (4) coding and analyzing the data, and (5) interpreting results. When discussing the methods of collecting, coding, and analyzing data, the class is informed that a simulation relating to these concepts will be conducted during class.

Our two major objectives for this simulation are to solidify students' understanding of various sampling techniques and to realize how these techniques can affect the research results. Specifically, students should be able to differentiate between random sampling, quota sampling, purposive sampling, systematic sampling, and convenience sampling. They should also be able to discuss the strengths and weaknesses of each sampling technique.

The initial idea for this data sampling simulation, which was first conducted in three sections of IPC 251 in the fall of 1985, involved gathering data in class, putting students in groups, and having them try out the various sampling techniques. The reasons for developing the exercise were primarily to put students in the active learning mode and

to help them remember the differences between the various sampling techniques. We also wanted students to see for themselves what varying results could be obtained with the same data, depending on what sampling technique was used. In doing so, we intended to put students in a position where they could evaluate each technique, and incorporate a higher level of learning.

The original simulation had the following procedure. During the class period before the simulation, we conducted an informal survey to find out characteristics of students enrolled in IPC 251. Five slips of paper were handed to each student and they were instructed to write their class standing on each piece (senior, junior, sophomore, or freshman). Students were asked to respond to five questions; one answer on each slip of paper. The questions were: (1) What is your political affiliation? (2) What is your religious preference? (3) What is your favorite pastime? (4) What is your favorite type of music--jazz, rock 'n roll, top 40, new wave, classical, or easy listening? (5) Should the proposed health service fee for CMU students be adopted?

After the students responded to each of the questions, we collected the slips of paper to use for the sampling simulation during the next class period. The following class day, students formed groups of five or six and each group was handed a set of data. We asked each group to try out a particular sampling technique. For instance, Group A was given a pile of data corresponding to the question on political affiliation, and was asked to do a quota sample based on the actual percentages of freshmen, sophomores, juniors, and seniors in the class. Group B had data relating to political affiliation also and was asked to do a random sample, based on several numbers taken from a random number table. Other groups received different questions, but each group was

asked to do a particular sampling technique. In this way, we had each group performing a different sampling technique with each question. Unfortunately, each group only performed one of the sampling techniques, and because of the size of the class, the newness of the exercise, and the large amounts of data, the whole simulation lacked organization. We resolved to work out the bugs for the next semester.

In spite of good intentions, the difficulties with this simulation seemed to be disorganization and a lack of clarity. Revising the data sampling simulation for Winter, 1986 required evaluation of the procedural weaknesses of the first run. While many students seemed to benefit from the simulation the previous semester, there were some who clearly mixed up some of the sampling techniques. This was evidenced by some of the unusual and inaccurate definitions we received in a follow-up paper in which students were to define the five techniques and discuss their advantages and/or disadvantages. Because it was desirable to complete the simulation in one class period, we decided that there were too many questions. As a result, the survey was reduced to three questions. A second problem was the general procedural confusion because each group was doing a different type of sampling and they were doing them all at the same time. It is difficult to get a large number of people to perform various tasks simultaneously when the instructions are different for each group of people. The result was confusion for students and minor frustration for the instructor. This also created a third problem. Some students were not involved in the group activity. Although each person was supposed to be actively involved, just a few people in each group had a real opportunity to work with the data.

To provide greater clarity and structure, a step-by-step plan was

developed. Given the time constraints, students were encouraged to work quickly and cooperatively. They were instructed to assign tasks in their groups, and switch tasks so that everyone was allowed participation in the exercise. Seven guidelines aided in the organization of the simulation. First, the instructor asked for a volunteer to compile the results for each of the three questions. These persons would be responsible for adding up the totals as each group completed a sampling technique on their question. Second, the instructor asked for a volunteer to record the results for each question. Third, students counted off into groups, so that there were three groups per question. With this run of the simulation, there were nine groups total, resulting in three questions with three groups each. It is helpful to have the same number of groups per question. Fourth, the groups dealing with the same question were asked to sit in the same approximate area. Fifth, in order to prevent unnecessary mixups, students were asked to have all the slips of paper with data for question one marked with a "1," all the slips with data for question two marked with a "2," and all the slips for question three marked with a "3." Sixth, groups were required to perform the same sampling technique at the same time. When each group finished a particular technique, the results were brought to the person assigned to compile the results of that question, and then the group was to wait until the rest of the class was ready to begin the next technique. This ensured that all the groups followed the instructions for each sample as the exercise progressed and helped to eliminate confusion of instructions. It helped students to remember more clearly the distinctions between each sampling technique as well. Seventh, when distributing the data, equal sets for each group were provided, and the groups were instructed that their sample size should be 10 for each sampling technique (30 per

question). This permitted easy comparison of results.

At least three benefits were accrued from the increased structure and organization. First, more students had hands on experience with each of the sampling techniques. Second, as evidenced by the improved definitions and evaluations of the techniques after the exercise, the various techniques were more clearly distinguished in their minds. Finally, the increased efficiency provided the opportunity to compare results. In fact, after each of the two sections of IPC 251 tallied their results, the instructor compiled tables so that both classes could see the differences between the various sampling techniques and compare the results between sections, since they had used the same data. This facilitated the students' progression into a higher level of understanding--evaluating the sampling techniques based on actual numbers, and being able to see if the samples were accurate representations of the entire data pool.

Two major problems were encountered with the second run of the simulation. First, the totals for the two classes doing the simulation did not correspond. Because they used the same data, their totals should have been exactly the same. The positive outcome of this, however, is that students discover the the need to emphasize accuracy in counting and reporting results.

The second problem is related, because it may have been responsible, in part, for the inaccuracy in tallying. Students were not told how to code or categorize the data. Thus, the coding from group to group was inconsistent. This problem is not entirely negative. For instance, the ambiguity of question three, "What is your favorite pastime?" allowed a wide range of responses. Because of this, it was

virtually impossible to code the data, and the students working on that question recognized the importance of the wording of survey questions, having decisional rules for coding prior to the coding, and making sure that the coders are consistent. For example, one group wanted to put the data from question three into two categories: activities that were considered socializing, and activities that one did alone. In the socializing category, they placed responses ranging from talking with friends, to having sex, to doing drugs, and going out to dinner. When this was discussed in class, they recognized how arbitrary some of those decisions for coding can be, and how the same data can be interpreted differently, depending on who is doing the coding and analyzing.

In general, students have found this exercise to be beneficial and interesting. When they were asked to provide written feedback about the data sampling simulation a week after they were tested on the material, students' responses were overwhelmingly positive. Most of them mentioned that the exercises made research seem fun, that it provided insight into the process of research, and that it demonstrated problems that might occur. It also helped them to differentiate between the sampling techniques by examining and comparing results, and develop an understanding of sampling bias. As one student commented, "I have had these (sampling) techniques in other classes. However, this class was the only one that actually showed how the techniques worked. By being able to work with a sample, I was able to better understand the concepts in this class and my others." Many students indicated similar, positive learning experiences with this simulation, and several suggested that the exercise be included as part of IPC 251 in the future.

It should be noted that the simulation is but one teaching strategy. As with any activity or teaching technique, there are some flaws, and

there are a few students who remain fairly disinterested and uninvolved. Nonetheless, the authors have found that experiential exercises in a course with such constraints are welcomed alternatives to the straight lecture format.

Selected Sources

Bloom, B. S. (1976). Human characteristics and school learning. New York: McGraw-Hill.

Littlejohn, S. W. (1983). Theories of human communication. Belmont, CA: Wadsworth.